

CLAIMS

What is claimed is:

- 5 63. A recording and playback system comprising:
 an audio capturing device configured to receive an analog input;
 an encoder coupled to said audio capturing device and configured to
generate a digital signal based on said analog input; and
 a recognition engine coupled to said audio capturing device and
10 configured to generate text data based on said analog input, wherein said
encoder and said recognition engine simultaneously generate said digital signal
and said text data such that said digital signal and said text data can be provided
in a synchronized manner.
- 15 64. The system as recited in Claim 63 further comprising a first switch
coupled between said encoder and a memory sub-system and also between said
recognition engine and said memory sub-system, said first switch configured to
couple one of said encoder and said recognition engine to said memory sub-
system and to simultaneously decouple the other one of said encoder and said
20 recognition engine from said memory sub-system.
65. The system as recited in Claim 64 further comprising:
 a decoder selectively coupled to said memory sub-system and configured
to decode said digital signal into decoded audio data;
25 a digital-to-analog (D/A) converter coupled to said decoder and configured
to convert said decoded audio data into an analog signal; and

an audio output device coupled to said D/A converter and configured to render a voice output corresponding to said analog input from said analog signal.

66. The system as recited in Claim 65 further comprising an amplifier
5 coupled between said D/A converter and said audio output device and configured to amplify said analog signal.

67. The system as recited in Claim 65 further comprising a display sub-system selectively coupled to said memory sub-system and configured to display
10 said text data.

68. The system as recited in Claim 67 further comprising a second switch coupled between said decoder and said memory sub-system and also between said display sub-system and said memory sub-system, said second
15 switch configured to couple one of said decoder and said display sub-system to said memory sub-system and to simultaneously decouple the other one of said decoder and said display sub-system from said memory sub-system.

69. The system as recited in Claim 67 wherein said display sub-system
20 comprises a liquid crystal display (LCD).

70. The system as recited in Claim 63 wherein said system is portable and battery-powered.

25 71. The system as recited in Claim 64 wherein said memory sub-system comprises semiconductor flash memory.

72. The system as recited in Claim 63 wherein said recognition engine uses Hidden Markov Model (HMM) techniques to perform recognition.

73. The system as recited in Claim 63 wherein said encoder is
5 operable to achieve a rate of two kilobits per second (2 kbit/s).

74. The system as recited in Claim 64 wherein said first switch is controlled based on said text data.

10 75. A method for audio recording and playback in a portable device, said method comprising the steps of:
a) capturing a first analog signal;
b) encoding said first analog signal to generate a digital signal;
c) performing recognition on said analog signal to generate text data;
15 wherein said b) and c) are performed simultaneously to generate said digital signal and said text data in response to said first analog signal such that said digital signal and said text data can be stored in a synchronized manner in a memory device.

20 76. The method as recited in Claim 75 further comprising:
alternately storing portions of said digital signal and corresponding portions of said text data such that said digital signal and said text data is synchronized.

25 77. The method as recited in Claim 75 further comprising the steps of:
d) decoding said digital signal into decoded audio data;

- e) converting said decoded audio data into a second analog signal;
and
- f) generating a voice output corresponding to said first analog signal
from said second analog signal.

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78. The method as recited in Claim 77 further comprising the step of
amplifying said second analog signal.

79. The method as recited in Claim 77 further comprising the steps of:

- 10 g) displaying said text data on a display device coupled to said
portable device.

80. The method as recited in Claim 79 wherein said display device is a
liquid crystal display (LCD).

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81. The method as recited in Claim 75 wherein said portable device is
battery-powered.

82. (New) The method as recited in Claim 75 wherein said memory
20 device is a flash memory coupled to said portable device.

83. (New) The method as recited in Claim 75 wherein a Hidden Markov
Model (HMM) technique is used for said recognition.

25 84. (New) The method as recited in Claim 75 wherein said encoding is
performed at a rate of substantially two kilobits per second (2 kbit/s).